Financial Literacy Education in a Work Release Program for an Incarcerated Sample

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We obtained 180 pre- and post-test surveys to investigate how an established financial literacy program may have increased financial knowledge of residents in a work release program in Augusta, Georgia. Paired t tests analyzed changes in subjective and objective financial knowledge, understanding of banking and credit, and financial attitudes. OLS regressions of pre- and post-test financial knowledge were guided by human capital theory to learn which program participant characteristics were associated with greater increase in knowledge and infer why. Education, age, and use of financial tools were significant predictors in the pretest. Controlling for pretest knowledge, there were significant, positive differences from pre- to post-test, regardless of race. Implications for further research and specific suggestions for financial education content for the incarcerated are provided.

Keywords: financial education, financial knowledge, human capital theory, incarcerated, work release

Research involving financial knowledge and the incarcerated population of the United States is in its infancy. The few published scholarly works focus on exploring the subjective and objective financial knowledge of offenders (Call, Dyer, Wiley, & Day, 2013; Galchus, 2014, 2015; Koenig, 2007). As offenders prepare for their return to society, they are faced with numerous changes, including distinct changes in the increasingly complex financial world. Offenders who have been incarcerated for more than a year may face minor changes in their banking procedures but are also out of practice handling money and taking care of their financial obligations. Offenders who have been incarcerated for more than 5 years may not be familiar with changes in banking convenience, such as online and mobile banking, and have also not personally handled any of their monetary responsibilities for an extended length of time.

The length of time in the prison system, combined with rapid changes in the financial industry, necessitates financial literacy education. The amplified availability of student loans, mortgages, credit cards, annuities, pension, and other investment accounts have been found difficult to master for inexperienced investors (Lusardi & Mitchell, 2014). Tackling changes to the financial system while incarcerated is even more difficult due to the lack of free and regular communication with the outside world. Not having exposure to new and developing financial products and options can stunt and even reverse growth; the new replaces the old, the old becomes obsolete, and then what knowledge there was, has, for all intents and purposes, just disappeared.

Research on development, evaluation, and investigation of which transition programs best prepare prisoners to return home after incarceration can be found in field-specific publications in criminology, sociology, psychology, and government reports (Petersilia, 2004). None of the programs, however, have investigated financial literacy training at the work release level. Financial literacy training is a significant part of the education needed in work release programs because it teaches the inmates the needed skills to appropriately handle limited finances. What minimal funds the work-release participants have available upon release, and at the jobs for which they will likely qualify, need to be managed appropriately. Low-income budgets lend themselves

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to challenges associated with making ends meet. This, combined with reestablishing oneself in the financial world by opening a bank account, checking a credit report, or fighting identity theft, may create additional challenges that former offenders are not prepared to handle. "There is a pressing need to build a broader needs–assessment literature on the topic of financial education with incarcerated populations" (Call et al., 2013, p. 46).

This study was conducted to investigate if an established financial literacy program increased financial knowledge of the residents in a work release program in Augusta, Georgia. Work release programs are not offered in all states, and there has been little research regarding the effectiveness of such programs (Turner & Petersilia, 1996). Our project obtained 180 completed pre- and post-tests, which were designed to obtain preclass financial knowledge, as well as posttests that focused on identifying knowledge gains and sought written feedback from the respondents.

Nonscholastic work has brought attention to money and prisoners; most recently, articles about prisoners learning from other prisoners (Hill, 2014a, 2014b) and a few journal articles have assessed the need for development of financial literacy education programs (e.g., Call et al., 2013; Galchus, 2014, 2015; Koenig, 2007; Richel, 2013). All these studies relied on small samples, and none ha used outcome measures to evaluate their applicability. Correctional education research, however, has emphasized the need to have outcome measures for each skill set (McKinney & Cotronea, 2011). The lack of outcome measures has made it difficult to determine if participants are actually learning what is intended and reasons why educational programs may succeed or fail (McKinney & Cotronea, 2011). This study addresses the need for financial education for incarcerated populations by investigating if an established financial literacy program increased financial knowledge of the residents in a work release program. Additionally, this study uses outcome measures to ensure the content was learned and appropriate for the offender population.

Relevant Literature

Societal Need for Financial Education

Financial literacy is a concern for the general population and special populations such as women, senior citizens, and low-income populations (Fernandes, Lynch, & Netemeyer, 2014; Lusardi & Mitchell, 2008, 2014). Individuals who lack both financial knowledge and ability have been found underprepared for retirement and make poorer financial choices (Lusardi & Mitchell, 2014; Lusardi & Tufano, 2015). Implementation of specialized financial literacy programs has been suggested, but quick solutions are not easy (Bannier & Neubert, 2016; Lusardi & Mitchell, 2008; Lemaster & Strough, 2014). Low levels of financial knowledge have been found among households with lower incomes (Heckman & Hanna, 2015). Low-income families may be more at risk for predatory lending due to lack of financial education (Lyons, Chang, & Scherpf, 2006) and may use alternative financial services such as check cashers and payday loan outfits to meet their financial needs (Lim, Livermore, & Davis, 2011; Shobe, Christy, Givens, & Murphy-Erby, 2013). Over 25% of Americans (excluding the incarcerated population who are not monitored) are either *unbanked* or *underbanked*, meaning their financial practices are conducted outside of the mainstream banking system (Burhouse & Osaki, 2012). Additional literature suggests low-income households also have less access to some banking services compared to middle- and upper-income households (Heckman & Hanna, 2015; Shobe et al., 2013). Tackling these well-established challenges for the incarcerated is even more difficult. Many inmates are low-income at the time of arrest (James, 2004). Offenders must also contend with time in the prison system which, when combined with rapid change in the financial industry, leaves this population further disadvantaged.

Financial Education and the Incarcerated

Though prisoner re-entry and education have been topics of national policy debate for many years, very few published studies have examined financial literacy education and incarcerated populations. What literature is available is scarce, limited in method, and any information on efficacy is mostly anecdotal and field-specific (Petersilia, 2004). The most recent study brought attention to financial literacy in Arkansas (Galchus, 2015). The study compared financial literacy levels of a small sample of Arkansas' male offenders to that of nonoffenders living in Arkansas (Galchus, 2014, 2015). The seminal published works on finances and the incarcerated were primarily exploratory in nature. Researchers were interested in what prisoners want to know (Call et al., 2013), and in turn, what should be taught (Koenig, 2007).

Just-in-Time Teaching

Prior work on teaching adult personal finance classes was considered before making the decision to use the Just-in-Time teaching method. Adult learners from low-income, minority, less-educated, and unbanked communities have preferred formal group education settings (Rhine & Toussaint-Comeau, 2002). The Just-in-time teaching method has also been widely promoted by the National Endowment for Financial Education (2006).

Just-in-Time teaching has been found to be particularly useful for students with introductory or nominal knowledge and has been a useful pedagogy across many topics (Novak, 2011). Just-in-Time teaching leads to both cognitive gains as well as attitude and motivation changes through its emphases on student's prior knowledge and experiences (Novak, 2011). Providing financial education prior to release from incarceration is a Just-in-Time teaching opportunity—providing timely instruction on a subject with which the soon-to-be-released offender has at least introductory experience (Braunstein & Welch, 2002; Novak, 2011) and is motivated to learn because he will encounter the subject immediately upon his return to society.

Just-in-Time teaching is a counter to traditional financial education programs that have not been impactful on financial behaviors (Mandell & Klein, 2009), particularly with low-income populations (Fernandes et al., 2014). This matters because according to a 2004 Bureau of Justice Statistics report, almost 60% of jail inmates had less than $1,000 monthly personal income prior to arrest (James, 2004). Returning to the workforce with time-served on the record may further prohibit a (former) offender's ability to obtain a living wage after release and may also impact their ability to emerge from a low-income status. Financial education is of particular importance for those with low income because the education may result in financial skills, which could be helpful with financial decision-making (Lyons et al., 2006). Current financial skills are particularly important for those who are preparing to be released, due to a lack of recency in handling money and making financial decisions and may be quite limited in the wages for which they qualify.

Theoretical Framework and Hypotheses

Theoretical Framework

Previous studies of financial literacy and offenders have not used a theoretical framework. This project uses human capital theory (HCT) to investigate the impact of an established financial education class on financial knowledge gains for prisoners participating in a work release program in Augusta, Georgia. HCT asserts people who participate in activities, such as education, on-the-job training, and healthful behaviors will increase their future financial well-being through increases in productivity (Becker, 1962; Gillies, 2015).

Under HCT, individuals have an initial "endowment" of capital (Checchi, 2006; Hai & Heckman, 2017). Endowment is the talent with which one begins, and therefore, the goal of education is to expand skill or knowledge. Endowed human capital impacts one's investment in one's own betterment, and those with greater endowment will invest in themselves more than others (Becker, 1962; Hai & Heckman, 2017). By virtue of incarceration, the subjects of our study are likely to have lower endowed human capital and generally need education. By providing timely, relevant financial education, participants' human capital, their personal skill set, and knowledge should increase and result in knowledge gains. These knowledge gains will help frame potential financial opportunities and hazards in advance of very specific financial choices. When the time to be released nears, financial choices are likely to be much more salient for prisoners than before incarceration. Thus, to structure our analysis, we hypothesized that relevant and timely financial education treatment will increase the financial knowledge of work-release prisoners.

Hypotheses

H1: There will be statistically significant differences in objective and subjective financial knowledge and in the understanding of banking and credit, in pre- and post-test scores.

H2: After controlling for education and pretest financial knowledge, the posttest scores will significantly improve from the pretest scores.

H3: Respondents with greater educational attainment will score higher on the pre- and post-tests than those with lesser education.

These hypotheses stem from our HCT framework. Subjective financial knowledge could have an additional positive impact on obtaining more financial knowledge as it may engender confidence about abilities to learn financial topics better (H1). The second hypothesis is intended to isolate the

influence of the study's financial intervention on posttest outcomes. Prior education is expected to promote the ability to obtain financial knowledge and similarly to increase that knowledge with continued financial education (H1 and H3).

Methods

Setting

The Augusta Transitional Center (ATC) is 1 of 13 Transitional Centers (TCs) in the State of Georgia (DCOR-Transitional, 2014). ATC is located in Augusta, Georgia and is a facility through which offenders enter the Georgia Department of Corrections Work Release Program for eventual release back into society. The study's main author provided financial literacy education for over 2 years at ATC. The financial education class was taught as one session for 2 hours.

Each class began with an introduction of the instructor, including qualifications and background. The instructor then provided a summary of the research being conducted, summarized the informed consent form, and gave the students the opportunity to read the informed consent form and opt out if they wished. With the informed consent form, the pretests were passed out. When the students were done with the forms, either by leaving them blank or filling them out, they were collected by the instructor and class instruction commenced. At the end of the class session, while the students were taking the posttest to evaluate the class and report their posteducational answers, copies of the signed informed consent forms were made by the instructor and handed back to the students as they turned in their respective posttests, collected their signed attendance sheets, and exited the classroom.

Sample

Residents at the ATC are all male and within 2 years or less of their release date. The men are required to take a one-session, 2-hour Money Management class as part of their Phase 1 Reentry program. At the time this study was conducted, November 2014 through September 2015, classes were offered on the first and third Mondays of each month, and occasionally on the fifth Monday of the month when applicable. Class sizes ranged from approximately 3 to 26 participants per class session. Class size was largely dependent on how many prisoners had been transferred from one of the Georgia prisons to the ATC in the 2 weeks between class sessions. The total number of respondents was 238. The final sample resulted in (N = 180) due to missing data.

Data Collection

Although the respondents were required to be in the class, they self-selected their participation in the study. This convenience sampling technique resulted in approximately 75% of students participating in the research project over the 10-month data collection period. The instructor informed each class that while anonymity could not be promised—because she was there and she would be able to identify who did and did not participate—confidentiality was of the utmost importance, and no information would be shared in or out of class regarding participation.

In order to maintain some form of confidentiality but still allow for the pre- and post-tests to be compared for each individual, the instructor requested that each student put their initials in the upper right-hand corner of the pretest. The students turned in their posttests in exchange for their signed copy of the informed consent form, and their ATC required individual attendance verification sheet. The posttests were turned in separately from the exchange of paperwork, which allowed the students to maintain some anonymity.

Class and Instruction

The Money Management class was an interactive, lecture-based format. In line with Just-in-Time teaching, and in order to promote active learning, students were asked an open-ended, warm-up question to begin the class and generate discussion (Novak, 2014). This opening question, "What is money to you?" allowed students to engage in reflection about their relationship with the topic and take a stand on how they defined money and its use in their lives and respond to other students' comments (Novak, 2014). Students were also encouraged to guide the direction of the class by sharing their experiences, both positive and negative, with financial institutions, balancing checking accounts, using a budget, creating savings, and understanding and utilizing credit. Through Just-in-Time teaching pedagogy, flexibility was allowed through the general topic structure because the questions were "extendable and memorable" (Novak, 2014), appealing enough to allow even those students with lesser endowed human capital to stay interested (Novak, 2014), and encouraged the students to reflect on prior knowledge and experience (Novak, 2014).

The Financial Knowledge Pre- and Post-Test

The pretest and posttest were practically identical except for ordering of the Likert-type statements and true/false questions; the four yes/no behavior questions were omitted from the posttest; and statements allowing the students to reflect on "What I Learned," "Suggestions for Improvement," and "Other comments" were present on the posttest. Demographic variables, age, race/ethnicity, and highest level of education completed were included on both the pre- and post-tests to provide for additional verification for the matching of the pre- and post-tests. The surveys are available from the first author upon request.

Sample

The final sample (N = 180) of respondents was derived from 238 total respondents. Missing data were random in nature and ranged from missing demographic data (age, race, education) to one or more answers missing on the pre- or post-test for the Likert-type scale statements, preincarceration behaviors, or on the financial knowledge questions. Respondents were primarily African American, had an average age of almost 36 years, and most had attained a high school diploma or General Equivalency Diploma (GED). Table 1 displays the descriptive data of the sample.

TABLE 1. Descriptive Statistics (N = 180)

Variable	Frequency (%)
Age (range 19–60 years; mean 35.66 years)	
Between 19 and 25	17.78
Between 26 and 32	25.00
Between 33 and 39 (control)	22.78
Between 40 and 46	15.00
47+	19.44
Race	
Black	65.56
Non-Black (control)	34.44
Education	
Less than high school/GED	19.44
High school diploma or GED (control)	57.22
Some college (+)	23.34
Preincarceration financial behaviors	
Used financial tools	
Used budget	61.67
Borrowed from bank or credit union	34.44
Borrowed from nonbank	
Borrowed from friend/relative to pay bills	55.56
Used payday or short-term loan	33.33
Reported increase in knowledge	97.22

Note. GED = General Equivalency Diploma.

Analysis

The demographic variables collected were age, race, and level of education completed. Age was collected as a continuous variable but was categorized in groups (ages 19–25; 26–32; 33–39 (control); 40–46; 47+) for the regression analyses. Race was self-identified by the respondents. Due to the majority of respondents self-identifying Black, race was defined as a dichotomous variable, Black and non-Black (control). Education levels ranged from middle school to college degree. For the purpose of this study, the education categories are less than high school/GED, high school diploma or GED (control), and some college or more.

The four yes/no behavior questions—use of budget, borrow from bank or credit union, borrow from friends or family, and use of payday loan—were investigated independently, but for brevity used in this study under two categorical headings "Used Financial Tools" and "Borrowed from Non-Bank." The combination of these variables under two headings allowed for use in the regression procedure without encroaching on having too many variables in the regression model for the number of respondents in the sample.

Paired t Tests

Paired t tests were used to determine the significance of mean difference from before and after the educational treatment for the Likert-type subjective and objective knowledge statements, financial attitude, as well as understanding banking and credit. There were 16, 5-point Likert-type statements used to measure respondent financial knowledge, attitude, and subjective financial knowledge—two statements addressed financial knowledge (safety of banking system, professional filing dispute on credit report), financial attitude was addressed with three statements (importance of money, budget, saving money), and financial subjective knowledge used 11 statements (handling identity theft, how credit works, balancing a checking account, setting goals, obtaining credit reports, ATM, use of ATM, use of debit card). The Likert-type scale section of the instrument was the largest due to the large number of topics covered in the 2-hour class. Additionally, yes/no

statements were created in order to determine behavior prior to incarceration. Literature regarding low-income individuals' use of AFS products (Shobe et al., 2013) assisted in the topics selected, and the resulting yes/no statements addressed use of a budget, borrowing from a bank or credit union, use of specific Alternative Financial Service (AFS) products, and borrowing money from friends or family in order to pay bills.

Paired *t* tests were also run for the individual financial knowledge index questions and the difference in the overall financial knowledge index. The dependent variable, financial knowledge, was constructed from eight true/false/don't know series of statements; the index ranges from 0 to 8. The index was created to measure financial knowledge of the topics that would be covered in class. Students were given the option of "Don't Know" in an attempt to alleviate guessing on both the pre- and post-tests. If selected, "Don't Know" was added to the incorrect answer for the statement. Answers were coded 1 for correct responses, and 0 for incorrect or don't know. The true–false statements were created, in part, to identify the respondents' familiarity with AFS and the associated costs. Additionally, the statements reflected the respondents' familiarity with savings habits, debit card use, and credit. A Cronbach's α (α = .60) was conducted in order to determine reliability.

Ordinary Least Squares (OLS) Regression

OLS regressions were conducted to determine which predictors of pre- and post-instruction financial knowledge were significant. The initial OLS regression for prediction of pretest financial knowledge focused solely on the predictive power of the demographic variables of age, race, and education. The second pretest regression model included "Used Financial Tools" and "Borrowed from Non-Bank" to the existing model. The posttest OLS regressions were run in a similar fashion, except there was a third regression, which added one final predictor, pre-education financial knowledge. We were particularly interested in any effect of "Used Financial Tools" in the model once pre-education financial knowledge was added to the model.

Results

Paired t Test Results

Paired *t* tests were conducted to measure changes in financial attitude and financial knowledge, both subjective and objective, for the Likert-type scale statements, as well as for the financial knowledge index. Overall support was found for Hypothesis 1. There were statistically significant differences in respondents' subjective and objective financial knowledge, financial attitudes, and understanding of banking and credit as measured by the Likert-type scale responses from pre- to post-test. For the Likert-type subjective knowledge, attitude, and objective knowledge statements (Table 2), there were significant mean differences in 12 of 16 of the Likert-type scale statements. Of particular interest for this population is the increase in reported subjective knowledge in the areas of identity theft and obtaining a credit report. Due to the amount of time spent away from resources to protect and monitor identity and credit, self-reports of increase in knowledge in these areas are particularly encouraging. There was no significant mean difference from pre- to post-test for the importance of money, knowledge of how to use an ATM or a debit card, or in views regarding whether or not using a budget is a waste of time. The following section provides a more detailed review of each variable for a more nuanced perspective.

Students reported an increase in subjective knowledge of understanding how credit works (.817; $p < .001$) and how to obtain a credit report while incarcerated and when released (1.961, $p < .001$; 1.050, $p < .001$, respectively). The reported increases in subjective knowledge regarding how to handle identity theft. "I know what to do if my identity has been stolen" and "I know what to do if someone has filed a false tax return in my name" were highly significant with changes between pre- and post-test knowledge of 1.105 ($p < .001$) and 1.394 ($p < .001$), respectively.

Two financial knowledge statements, both showed significant increases in mean differences between pre- and post-tests. "It is safer to keep my money in a bank/credit union than in cash" had a mean difference increase of .583 ($p < .001$). "Filing a dispute takes a trained professional" had a mean difference of −.644 ($p < .001$), which is what was anticipated. This result indicates that there was a significant change in knowledge regarding who can file a dispute on a credit report, and that it does not take a professional to get such a task accomplished.

The financial attitude section of the Likert-type statements included the importance of money, using a budget, and the possibility of saving money. The importance of money and using a budget being a waste of time did not result in significant mean differences. The lack of significant change in these two statements is not particularly surprising. The attitude statement,

TABLE 2. Pretest/Posttest Paired *t* Test Results (*N* = 180)

Measurements: Financial Knowledge, Attitude, Subjective Financial Knowledge (1 = Strongly Disagree; 5 = Strongly Agree)	Pre	Post	Mean Difference
Money is important to me.	4.672	4.611	−0.061
It is safer to keep my money in a bank/credit union than in cash.	3.967	4.550	0.583***
I understand how credit works.	3.561	4.377	0.817***
I know what to do if my identity has been stolen.	3.350	4.455	1.105***
I know what an ATM is.	4.722	4.577	−0.144***
I know how to use an ATM.	4.561	4.544	−0.016
I know how to use a debit card.	4.483	4.538	0.056
I am comfortable balancing a checking account.	3.733	4.122	0.389***
I know how to set achievable financial goals.	3.656	4.289	0.633***
I know what to do if someone has filed a false tax return in my name.	3.011	4.406	1.394***
I know how to obtain my credit report while incarcerated.	2.406	4.367	1.961***
Filing a dispute on a credit report takes a trained professional.	2.883	2.239	−0.644***
It is important to track my spending.	4.528	4.706	0.178**
Using a budget is a waste of time.	1.527	1.500	−0.028
I know how to obtain my credit report upon release.	3.472	4.522	1.050***
Saving money is possible no matter how much I make.	4.178	4.444	0.267**

Note. Strongly disagree/disagree are the correct responses. A negative mean difference was anticipated (and hoped) for.
**$p < .01$. ***$p < .001$.

which did reflect a positive mean difference of .267 ($p < .001$), "Saving money is possible no matter how much I make" indicated that the class had the desired impact of changing respondent attitudes regarding developing savings habit.

Support was also found for Hypothesis 2. There were statistically significant knowledge gains after the educational treatment (Table 3). Seven out of eight of the financial knowledge scores changed significantly from the pretest to the posttest. The largest difference in mean score was for the statement "I can choose whether my debit card purchases come out of my savings or checking," which resulted in a mean difference of .428 ($p < .001$). The next largest mean difference (.367, $p < .001$) was found for the statement, "Finance companies charge more interest and fees than banks and credit unions." Use of a check-cashing store to cash paychecks, the first knowledge statement, resulted in a .250 ($p < .001$) mean difference. This difference reflects the emphasis that was placed on the importance, affordability, and safety of using the banking system. These changes, among the others, reflect a distinct lack of knowledge prior to the educational treatment. The posttest mean

TABLE 3. Pretest/Posttest Financial Knowledge Paired *t* Test Results (*N* = 180)

Measurements: Financial Knowledge (True = 1; False/Don't Know = 0)	Pre	Post	Mean Difference
I should use a check-cashing store to cash my paychecks.	.683	.933	.250***
If I am not going to borrow money, my credit report/score doesn't matter.	.789	.889	.100**
Deposits should be made regularly to an emergency savings account.	.750	.917	.167***
A credit card is an important part of building my credit score.	.700	.761	.061
I should apply for lots of credit as soon as I have secured employment.	.750	.833	.083*
Finance companies charge more interest and fees than banks and credit unions.	.528	.894	.367***
Using "Rent-to-Own" will cost me the same as paying cash.	.739	.889	.150***
I can choose whether my debit card purchases come out of my savings or checking.	.200	.628	.428***
Financial knowledge index	4.456	5.811	1.356***

*$p < .05$. **$p < .01$. ***$p < .001$.

score reflected an overall mean increase in score of 1.356 ($p < .001$).

Due to the differences in race reflected in this population, the financial knowledge index was also evaluated using paired *t* tests specifically to identify if increases in knowledge were consistent based on race compared to the whole group. Of particular note for Blacks ($N = 118$), the only difference in change in scores between the whole group and Blacks, where the mean difference was not significant for Blacks, is the statement "I should apply for lots of credit as soon as I have secured employment." There was not a significant change in score from pre- to post-test on this index item. The remaining six items that were significant for the whole group paired *t*-test maintained a significant, positive difference in score from pre- to post-test. Overall, there was a significant, positive difference in score from pre- to post-test, regardless of race.

OLS Regression Results

The initial pretest OLS regressions included age, race, and education (Step 1) and added "Used Financial Tools" and "Borrowed from Non-Bank" (Step 2) as predictors of pretest financial knowledge. For concision, only the Step 2 model is shown (Table 4). Two age categories were significant predictors. Compared to respondents who were 33–39 years old, respondents who were 19–25 years old ($b = -1.06$; $p < .01$) and 26–32 years old ($b = -.765$; $p < .05$) had significantly less financial knowledge. According to HCT, education should provide significant predictive power because the respondent participated in a future-improving behavior. In the pretest regression model Step 1, partial support was found for Hypothesis 3. Respondents with greater educational attainment scored higher than those with less education. Specifically, compared to those who only had a high school diploma or GED, those with more than a high school diploma or GED scored higher on the pretest financial knowledge scale ($b = .555$; $p = .055$). There was no statistically significant difference between those who had less than high school education and those with a high school diploma or GED. HCT may provide some explanation of the age and education results. Those respondents who are younger than the control group may have been incarcerated when they would have been exposed to education or on-the-job training and may have had less experience—including in terms of learning from financial mistakes. Step 1 results for education and age may suggest that imprisoned men who are under 33 years old and those who have a high school diploma or GED or less could benefit the most from more financial education.

TABLE 4. Predictors of Pretest Financial Knowledge Human Capital Theory Informed Model

Variable	β	*SE* β
Intercept	4.774***	.382
Age		
Between 19 and 25 years	−1.062**	.376
Between 26 and 32 years	−0.854*	.336
Between 33 and 39 years	–	–
Between 40 and 46 years	−0.159	.381
47+	−0.474	.352
Race		
Black	−0.266	.246
Non-Black	–	–
Education		
Less than high school	−0.250	.313
High school diploma/GED	–	–
Some college or more	0.567*	.283
Used financial tools (budget and borrow bank/cu)	0.663**	.255
Borrowed from nonbank (payday or friend/relative to pay bills)	−0.273	.246

Note. Adjusted $R^2 = .1177$. GED = General Equivalency Diploma; *SE* = standard error.
*$p < .05$. **$p < .01$. ***$p < .001$.

In Step 2, we added the variables "Used Financial Tools" and "Borrowed from Non-Bank" to the pretest regression model. Study participants who had used financial tools presumably gained experience that builds human capital. Having borrowed from a friend or family member or having taken out a payday loan (nonbank) to make ends meet may indicate they had difficulty learning how to use credit wisely. "Used Financial Tools" was found to be a significant predictor ($b = .663$; $p < .01$) of financial knowledge. There was no substantive change in the coefficients for the other variables. However, the variable for those with the most education became statistically significant ($p < .05$).

For posttest financial knowledge, we built the final regression model in three hierarchical steps. For brevity, Table 5 presents the final version, including all the predictor variables. Step 1 included only the demographic variables. Compared to the pretest regressions, the explanatory power of the education and age variables decreased. Instead, race was the only statistically

TABLE 5. Predictors of Posttest Financial Knowledge Human Capital Theory Informed Model

Variable	β	*SE* β
Intercept	5.324***	.387
Age		
Between 19 and 25 years	−0.241	.283
Between 26 and 32 years	−0.066	.253
Between 33 and 39 years	–	–
Between 40 and 46 years	−0.013	.287
47+	−0.074	.266
Race		
Black	−0.585***	.185
Non-Black	–	–
Education		
Less than high school	−0.111	.236
High school diploma/GED	–	–
Some college or more	0.234	.213
Used financial tools (budget and borrow bank/cu)	0.221	.192
Borrowed from nonbank (payday or friend/relative to pay bills)	−0.137	.185
Pretest financial knowledge	0.190***	.056

Note. Adjusted R^2 = .1459. *SE* = standard error.
*p < .05. **p < .01. ***p < .001.

significant predictor of posttest financial knowledge. Compared to non-Blacks, Blacks were less likely to have posttest financial knowledge (b = −.585; p < .001). The effect of education *should* go away if the treatment (financial education) had any effect because the respondents had been exposed to specialized education and a posttest.

In Step 2, "Used Financial Tools" and "Borrowed from Non-Bank" variables were added. In that second model, race maintained its predictive power. Blacks were still less likely to have posttest financial knowledge compared to non-Blacks (b = −.365; p < .001). Furthermore, those who "Used Financial Tools" were more financially knowledgeable than those who did not (b = .346; p < .10).

To complete the hierarchical process, Step 3 added pretest financial knowledge as a predictor of posttest financial knowledge. The decision to add pretest financial knowledge as a predictor of posttest financial knowledge was intended to test the strength of the predictive power of "Used Financial Tools." As expected, pretest financial knowledge is a statistically significant predictor of posttest financial knowledge (b = .190; p < .001). "Used Financial Tools" became nonsignificant. However, race remained a significant predictor.

To summarize, the OLS analysis showed that use of financial tools is an important indicator of pretest financial knowledge, but it was not significant for posttest knowledge when controlling for pretest knowledge. Education and age predicted pretest knowledge, but not posttest knowledge when accounting for pretest knowledge. In the final version for posttest knowledge, only race and pretest knowledge were significant predictors. The finding that race was the only continually significant predictor of financial knowledge indicates there are omitted variables that influence the ability of the non-Whites to benefit from the type of education they were provided. Hypothesis 2 was supported; after controlling for education and pretest financial knowledge, posttest scores improved.

Discussion

This study determined the usefulness of an established financial education course to improve financial knowledge of TC residents in Georgia. The results showed significant financial knowledge increases after the financial education treatment. The few published studies of financial education and the incarcerated (Galchus, 2014, 2015; Koenig, 2007) did not provide pre- and post-test analysis of changes in financial knowledge after the conclusion of the financial literacy education program. Analyses presented here add to the literature on work release programs as well as financial literacy literature by providing pre- and post-test financial knowledge measures for incarcerated populations.

Using a pretest/posttest format was particularly advantageous for this project. First, it provided information on what students "brought to the table" in terms of endowed human capital. The education demographic variable was highly associated with pretest scores. That the education variable was highly associated with pretest results underscores which study participants had better financial knowledge initially and still improved their scores on the posttest. Secondly, we were able to add to the literature not only in continuing exploration of financial education for the incarcerated populations but also by obtaining outcomes connected to the effectiveness of the class itself (McKinney & Cotronea, 2011). Obtaining pretest/posttest outcome results allowed us to determine which portions of the class are needed and should be emphasized for this population and which could potentially be culled from the curriculum.

Finally, we were able to determine that Blacks and those with lower education had less financial knowledge. Even after the class treatment, Blacks remained disadvantaged. Racial differences in financial literacy have been found in other studies (e.g., Kim & Chatterjee, 2013). Racial differences in this project may be magnified due to omitted variable bias such as a lack of information on informal learning experiences or family background characteristics.

Key financial knowledge gains documented in this study include increased knowledge in the benefits of the banking system versus check cashing stores, that finance companies charge more than banks and credit unions for loans, and how debit cards work. While many Americans use debit cards without a second thought, this underserved subpopulation of America is not totally familiar with the intricacies of electronic banking. Use of prepaid debit cards can be very expensive and provides no savings vehicle with which to begin planning for the future. These men need training to understand the different companies and products available to them in order to make informed financial decisions. TC residents also need more information regarding identity theft. Our findings suggest the incarcerated population need additional training regarding how to obtain their needed financial records and how to fight identity theft that may have occurred during their time incarcerated.

TC residents were required to be part of the offered Money Management class. The basic financial education class provided a short, but effective opportunity for the offenders to obtain needed basic information regarding the financial world to which they were preparing to return. The financial education treatment provided for statistically significant increases in financial knowledge. For this population, even a short, 2-hour, basic financial education class results in significant increases in knowledge. Changes in financial attitude—specifically the belief that money can be saved regardless of how much income is made and the importance of tracking spending—are important because they may provide for an improved sense of ability to handle limited resources once released from the prison system.

Limitations and Implications

Limitations in this study include a lack of information regarding length of incarceration and whether or not the respondents had experience with bank accounts and banking products. Future research should investigate connections between these variables in particular because of information regarding length of sentence may provide insight regarding an offender's potential familiarity with financial products and services. This information would also be beneficial in order to design content that is as timely and relevant as possible, based on likely exposure to different financial products because of differences in time spent incarcerated.

Additional limitations of this study arise when considering the timing of the posttest and the lack of follow-up after release. Future studies should collect additional posttest data 2 weeks to 1 month after the course is complete. The initial posttest, then, would serve as a measure of immediate knowledge gained, and the later follow-up would provide data on retained knowledge. Following up with (former) offenders postrelease would also provide insight on retention of financial knowledge when considering the pedagogy of Just-in-Time teaching.

Just-in-Time teaching itself is not without concerns. Recent commentary from Huston (2015) and Hensley (2015) highlight the short-sidedness of a one-time, educational program regardless of how useful the program may have been found. Maintaining and building financial health over a lifetime require multiple reviews and check-ins (Hensley, 2015; Huston, 2015).

Research involving financial knowledge and this specific subpopulation of American society is in its infancy. An important next step is to investigate financial knowledge of offenders and track them after release to determine how financial knowledge and potentially better financial management behavior are related to successful reentry into society. The changes in the American financial world are fast-paced and may be perilous to ill-informed consumers, particularly those who have had limited, if any access, to the information and tools required to cope better. Research in this area will benefit policymakers, as well as criminal justice and financial counseling and education professionals due to the need for more information on potential ways to impact crime reduction as well as provide insight to professionals who seek to provide financial education to this population.

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